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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/052,240 | 01/17/2002 | Philippe Georges Castel | DP-301665 | 8028 |

7590 10/21/2003
SCOTT A. MCBAIN
DELPHI TECHNOLOGIES, INC.
Legal Staff, Mail Code: 480-414-420
P.O. Box 5052
Troy, MI 48007-5052

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| EXAMINER |
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LOPEZ, FRANK D

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| ART UNIT | PAPER NUMBER |
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3745

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,240

Applicant(s)

CASTEL, PHILIPPE GEORGES

Examiner

F. Daniel Lopez

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

R sponse to Amendm nt

Applicant's arguments filed July 30, 2003, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claim 15-28 have been considered but are deemed to be moot in view of the new grounds of rejection. The new grounds of rejection are necessitated by the added limitations that the deformable reaction disc forms around the piston, and changes in the dependencies of the claims.

Claim Rejections - 35 USC § 112

Claims 15-28 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 15 line 15-16 "deformable reaction disc forms...within said thrust assembly" is confusing, since line 8-13 indicates that the reaction disc is part of the thrust assembly.

In claim 18 line 1-2 "piston bearing surface" and "thrust bearing surface" have no antecedent basis, and so claim 18 should depend on claim 17.

In claim 19 line 3 "said means for absorption of said deformations" is confusing, since there is no antecedent basis (claim 15 was amended to change this to "reaction disc deforming").

Claims not specifically mentioned are indefinite, since they depend from one of the above claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Art Unit: 3745

Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 15-20 are rejected under 35 U.S.C. § 103 as being unpatentable over any either Endo or Levrai et al in view of Suzuki et al. Endo discloses a braking force amplifier with dual amplification ratios comprising a plunger (22) operably attached to a brake pedal (through 27) and axially displaceable in a piston (13a) controlling a pressure differential across the piston; a thrust assembly comprising a deformable reaction disc (35, 38) interposed between the piston and plunger, and a reaction rod (34); wherein the reaction rod is axially displaceable between first and second braking states, corresponding to first and second amplification ratios, respectively; wherein the reaction disc is within the thrust assembly, and contributes to determining a transition braking force at which the reaction force changes from the first to the second braking state; wherein an annular piston bearing surface of the piston physically contacts an annular, thrust assembly bearing surface, coaxial with the piston bearing surface (forming sides of space 32); with an area of contact determining the second amplification ratio and the distance between the bearing surfaces determining the transition braking force; wherein the reaction disc is in a cavity, formed in a housing at a head end of the reaction rod, with the housing receiving an end of the piston; but does not disclose that the reaction disc is formed around the piston, with the housing having a dimension greater than the end of the piston, providing the cavity for absorbing the deformations of the reaction disc.

Levrai et al discloses a braking force amplifier with similar limitations.

Suzuki et al teaches, for a braking force amplifier comprising a plunger (11a) operably attached to a brake pedal (through 25) and axially displaceable in a piston (6) controlling a pressure differential across the piston; a thrust assembly comprising a deformable reaction disc (26) interposed between the piston and plunger, and a

Art Unit: 3745

reaction rod (27); wherein the reaction disc is within the thrust assembly; wherein the reaction disc is in a cavity, formed in a housing at a head end of the reaction rod, with the housing receiving an end of the piston; that the reaction disc is formed around the piston (by 26b), with the housing having a dimension greater than the end of the piston, providing the cavity for absorbing the deformations of the reaction disc, for the purpose of preventing communication between one side and the other side of the piston (e.g. column 1 line 66- column 2 line 2) .

Since Endo, Levrai et al, and Suzuki et al are from the same field of endeavor, the purpose disclosed by Suzuki et al would have been recognized in the pertinent art of either Endo or Levrai et al. It would have been obvious at the time the invention was made to one having ordinary skill in the art to form the reaction disc of either Endo or Levrai et al around the piston, with the housing having a dimension greater than the end of the piston, providing the cavity for absorbing the deformations of the reaction disc, as taught by Suzuki et al, for the purpose of preventing communication between one side and the other side of the piston.

Claims 15, 16, 19 and 20 are rejected under 35 U.S.C. § 103 as being unpatentable over Gauthier in view of Suzuki et al. Gauthier discloses a braking force amplifier with dual amplification ratios comprising a plunger (14) operably attached to a brake pedal and axially displaceable in a piston (10) controlling a pressure differential across the piston; a thrust assembly comprising a deformable reaction disc (32) interposed between the piston and plunger, and a reaction rod (20); wherein the reaction rod is axially displaceable between first and second braking states, corresponding to first and second amplification ratios, respectively; wherein the reaction disc is within and part of the thrust assembly, and contributes to determining a transition braking force at which the reaction force changes from the first to the second braking state; wherein the reaction disc is in a cavity, formed in a housing at a head end of the reaction rod, with the housing receiving an end of the piston; but does not disclose that the reaction disc is formed around the piston, with the housing having a

Art Unit: 3745

dimension greater than the end of the piston, providing the cavity for absorbing the deformations of the reaction disc.

Suzuki et al teaches, for a braking force amplifier comprising a plunger (11a) operably attached to a brake pedal (through 25) and axially displaceable in a piston (6) controlling a pressure differential across the piston; a thrust assembly comprising a deformable reaction disc (26) interposed between the piston and plunger, and a reaction rod (27); wherein the reaction disc is within the thrust assembly; wherein the reaction disc is in a cavity, formed in a housing at a head end of the reaction rod, with the housing receiving an end of the piston; that the reaction disc is formed around the piston (by 26b), with the housing having a dimension greater than the end of the piston, providing the cavity for absorbing the deformations of the reaction disc, for the purpose of preventing communication between one side and the other side of the piston (e.g. column 1 line 66- column 2 line 2) .

Since Gauthier and Suzuki et al are both from the same field of endeavor, the purpose disclosed by Suzuki et al would have been recognized in the pertinent art of Gauthier. It would have been obvious at the time the invention was made to one having ordinary skill in the art to form the reaction disc of Gauthier around the piston, with the housing having a dimension greater than the end of the piston, providing the cavity for absorbing the deformations of the reaction disc, as taught by Suzuki et al, for the purpose of preventing communication between one side and the other side of the piston.

Claims 15, 16, 19 and 20 are rejected under 35 U.S.C. § 103 as being unpatentable over either Japan 10,230,841, Inoue et al, or Tobisawa in view of Suzuki et al. Japan 10,230,841 discloses a braking force amplifier with dual amplification ratios comprising a plunger (530) operably attached to a brake pedal (through 50) and axially displaceable in a piston (28) controlling a pressure differential across the piston; a thrust assembly comprising a deformable reaction disc (830) interposed between the piston and plunger, and a reaction rod (70); wherein the reaction rod is axially displaceable between first and second braking states, corresponding to first and second amplification

rations, respectively; wherein the reaction disc is within and part of the thrust assembly, and contributes to determining a transition braking force at which the reaction force changes from the first to the second braking state; wherein the reaction disc is in a cavity, formed in a housing at a head end of the reaction rod, with the housing receiving an end of the piston; but does not disclose that the reaction disc is formed around the piston, with the housing having a dimension greater than the end of the piston, providing the cavity for absorbing the deformations of the reaction disc.

Inoue et al, and Tobisawa disclose similar limitations.

Suzuki et al teaches, for a braking force amplifier comprising a plunger (11a) operably attached to a brake pedal (through 25) and axially displaceable in a piston (6) controlling a pressure differential across the piston; a thrust assembly comprising a deformable reaction disc (26) interposed between the piston and plunger, and a reaction rod (27); wherein the reaction disc is within the thrust assembly; wherein the reaction disc is in a cavity, formed in a housing at a head end of the reaction rod, with the housing receiving an end of the piston; that the reaction disc is formed around the piston (by 26b), with the housing having a dimension greater than the end of the piston, providing the cavity for absorbing the deformations of the reaction disc, for the purpose of preventing communication between one side and the other side of the piston (e.g. column 1 line 66- column 2 line 2) .

Since any one of Japan 10,230,841, Inoue et al, Tobisawa and Suzuki et al are both from the same field of endeavor, the purpose disclosed by Suzuki et al would have been recognized in the pertinent art of any one of Japan 10,230,841, Inoue et al, and Tobisawa. It would have been obvious at the time the invention was made to one having ordinary skill in the art to form the reaction disc of any one of Japan 10,230,841, Inoue et al, and Tobisawa around the piston, with the housing having a dimension greater than the end of the piston, providing the cavity for absorbing the deformations of the reaction disc, as taught by Suzuki et al, for the purpose of preventing communication between one side and the other side of the piston.

Conclusion

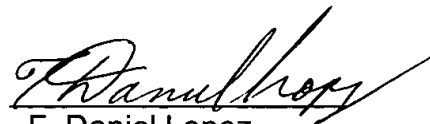
Claims 21-28 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
October 20, 2003